UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/741,654	12/19/2003	Floyd D. Simpson	CE11670JDP	3833

7590   01/22/2008

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EXAMINER
LEE, BETTYE

ART UNIT	PAPER NUMBER
2619	

MAIL DATE	DELIVERY MODE
01/22/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	**Applicant(s)**
Office Action Summary	10/741,654	SIMPSON ET AL.
	Examiner	**Art Unit**	
	Betty Lee	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _01 November 2007_.

2a) ☒ This action is **FINAL.** 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-23_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-5,7-20,22 and 23_ is/are rejected.

7) ☒ Claim(s) _6 and 21_ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

    1.   Determining the scope and contents of the prior art.
    2.   Ascertaining the differences between the prior art and the claims at issue.
    3.   Resolving the level of ordinary skill in the pertinent art.
    4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

3.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

4. Claims **1-5, 9-14, 17-20, 22, and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Beach et al. (US 2004/0072588) in view of Lewis (US 6,393,261) and Meier (US 2004/0184475).

Regarding claim 1, Beach teaches admitting a reserved traffic stream at an access point, including establishing a reserved buffer at the access point for buffering only data corresponding to the reserved traffic stream to be transmitted to the mobile station (see paragraph 23 lines 9-11; The reserved traffic stream is the traffic stream reserved for the mobile station by the access point.);

waking up a WLAN subsystem of the mobile station from a low power state (see paragraph 26 lines 1-8);

acquiring a WLAN channel between the mobile station and the access point (see paragraph 23 lines 4-8);

transmitting a polling frame to the access point over the WLAN channel, the polling frame identifying the reserved traffic stream (see paragraph 23 lines 4-8);

in response to transmitting the polling frame, receiving a response frame at the mobile station over the WLAN channel, the response frame being transmitted by the access point and identifying the reserved traffic stream (see paragraph 23 lines 7-11), the response frame containing either data from the reserved buffer for the reserved traffic stream if there is data corresponding to the reserved traffic stream in the reserved buffer (see paragraph 23); and

upon receiving the response frame, setting the WLAN subsystem into the low power state (see paragraph 23 lines 17-21).

Beach teaches all the subject matter of the claimed invention with the exception

of the reserved buffer is maintained separately from a general buffer for the mobile

station and sending a null frame if there is no data corresponding to the reserved traffic

stream in the reserved buffer.

However, Lewis teaches the reserved buffer for the mobile stations is maintained

separately from a general buffer for the mobile station (see col. 12 lines 6-47; The

unsolicited data is buffered separately from the solicited/reserved data.). Thus, it would

have been obvious to one of ordinary skill in the art to use the system of Lewis in the

system of Beach. The motivation for doing so is not to awaken the mobile from sleep to

receive unsolicited data. Beach in view of Lewis teaches all the subject matter of the

claimed invention with the exception of sending a null frame if there is no data

corresponding to the reserved traffic stream in the reserved buffer.

However, Meier teaches sending a null frame if there is no data corresponding to

the reserved traffic stream in the reserved buffer (see paragraph 107). Thus, it would

have been obvious to one of ordinary skill in the art to use the system of Meier in the

system of Beach. The motivation for doing so is to increase the reliability and quality of

service of the system.

Regarding claim 2, Beach further teaches receiving an acknowledgement frame

at the mobile station from the access point over the WLAN channel in response to

transmitting the polling frame (see paragraph 23 lines 7-8).

Regarding claim 3, Beach further teaches transmitting an acknowledgement frame from the mobile station to the access point over the WLAN channel in response to receiving the response frame (see paragraph 23 lines 11-13).

Regarding claim 4, Beach teaches all the subject matter of the claimed invention with the exception of a MORE_DATA bit. However, Meier teaches receiving the response frame includes receiving a header of the response frame having a MORE_DATA bit set to indicate a second response frame will be transmitted subsequently; the method further comprising receiving a second response frame at the mobile station (see paragraph 108 lines 3-6). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Meier in the system of Beach. The motivation for doing so is to increase the reliability of the system.

Regarding claims 5, 13, and 20, Beach teaches all the subject matter of the claimed invention with the exception of the polling frame comprising a null frame. However, Meier teaches the polling frame comprising a null frame (see paragraph 107 lines 4-6). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Meier in the system of Beach. The motivation for doing so is to increase the reliability of the system.

Regarding claim 9, Beach teaches admitting a reserved traffic stream at the access point, including establishing a reserved buffer at the access point for buffering only data corresponding to the reserved traffic stream to be transmitted to the mobile station (see paragraph 23 lines 9-11);

receiving a polling frame at the access point over the WLAN channel from the

mobile station, the polling frame identifying the reserved traffic stream (see paragraph

23 lines 4-8);

checking the reserved buffer for buffered data corresponding to the reserved

traffic stream to be sent to the mobile station (see paragraph 23 lines 9-11);

acquiring a WLAN channel between the mobile station and the access point,

performed by the access point (see paragraph 23 lines 9-11); and

transmitting a response frame to the mobile station over the WLAN channel, the

response frame being transmitted by the access point and identifying the reserved

traffic stream (see paragraph 23 lines 17-18).

Beach teaches all the subject matter of the claimed invention with the exception

of the reserved buffer is maintained separately from a general buffer for the mobile

station and sending a null frame if there is no data corresponding to the reserved traffic

stream in the reserved buffer.

However, Lewis teaches the reserved buffer for the mobile stations is maintained

separately from a general buffer for the mobile station (see col. 12 lines 6-47; The

unsolicited data is buffered separately from the solicited/reserved data.). Thus, it would

have been obvious to one of ordinary skill in the art to use the system of Lewis in the

system of Beach. The motivation for doing so is not to awaken the mobile from sleep to

receive unsolicited data. Beach in view of Lewis teaches all the subject matter of the

claimed invention with the exception of sending a null frame if there is no data

corresponding to the reserved traffic stream in the reserved buffer.

However, Meier teaches sending a null frame if there is no data corresponding to

the reserved traffic stream in the reserved buffer (see paragraph 107). Thus, it would

have been obvious to one of ordinary skill in the art to use the system of Meier in the

system of Beach. The motivation for doing so is to increase the reliability and quality of

service of the system.

Regarding claim 10, Beach teaches transmitting an acknowledgement frame to

the mobile station from the access point over the WLAN channel in response to

receiving the polling frame (see paragraph 23 lines 7-8).

Regarding claim 11, Beach teaches receiving an acknowledgement frame from

the mobile station at the access point over the WLAN channel in response to

transmitting the response frame (see paragraph 23 lines 11-13).

Regarding claim 12, Beach teaches all the subject matter of the claimed

invention with the exception of the MORE_DATA bit. However, Meier teaches

transmitting the response frame includes transmitting a header of the response frame

having a MORE_DATA bit set to indicate a second response frame will be transmitted

subsequently; the method further comprising transmitting a second response frame to

the mobile station, the second response frame belonging to the reserved traffic stream

(see paragraph 108 lines 3-6). Thus, it would have been obvious to one of ordinary skill

in the art to use the system of Meier in the system of Beach. The motivation for doing

so is to increase the reliability of the system.

Regarding claim 14, Beach teaches all the subject matter of the claimed

invention with the exception of transmitting a null frame. However, Meier teaches

transmitting a null frame if there is no data in the reserved buffer (see paragraph 107 lines 1-9). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Meier in the system of Beach. The motivation for doing so is to increase the reliability of the system.

Regarding claim 17, Beach teaches admitting a reserved traffic stream at the access point, including establishing a reserved buffer at the access point for buffering only data corresponding to the reserved traffic stream to be transmitted to the mobile station; indicating to the access point by the mobile station that the mobile station will use power save mode (see paragraph 25 lines 1-7);

placing a WLAN subsystem of the mobile station in a low power state (see paragraph 25 lines 1-7);

waking up the WLAN subsystem of the mobile station from a low power state in response to the occurrence of a service interval timer event, the service interval timer for timing a service interval, the service interval defining a real time duration of a voice frame (see paragraph 21 lines 1-6);

acquiring a WLAN channel between the mobile station and the access point, performed by the mobile station after waking up the WLAN subsystem from the low power state (see paragraph 23 lines 4-7);

transmitting a polling frame over the WLAN channel from the mobile station upon acquiring the WLAN channel, the polling frame identifying the reserved traffic stream (see paragraph 23 lines 4-7);

acquiring the WLAN channel, performed by the access point after checking the

reserved buffer (see paragraph 23 lines 9-11);

transmitting a response frame to the mobile station over the WLAN channel, the

response frame being transmitted by the access point and identifying the reserved

traffic stream (see paragraph 23 lines 17-18); and

upon receiving the response frame at the mobile station, setting the WLAN

subsystem into the low power state (see paragraph 23 lines 18-21).

Beach teaches all the subject matter of the claimed invention with the exception

of the reserved buffer is maintained separately from a general buffer for the mobile

station and sending a null frame if there is no data corresponding to the reserved traffic

stream in the reserved buffer.

However, Lewis teaches the reserved buffer for the mobile stations is maintained

separately from a general buffer for the mobile station (see col. 12 lines 6-47; The

unsolicited data is buffered separately from the solicited/reserved data.). Thus, it would

have been obvious to one of ordinary skill in the art to use the system of Lewis in the

system of Beach. The motivation for doing so is not to awaken the mobile from sleep to

receive unsolicited data. Beach in view of Lewis teaches all the subject matter of the

claimed invention with the exception of sending a null frame if there is no data

corresponding to the reserved traffic stream in the reserved buffer.

However, Meier teaches sending a null frame if there is no data corresponding to

the reserved traffic stream in the reserved buffer (see paragraph 107). Thus, it would

have been obvious to one of ordinary skill in the art to use the system of Meier in the

system of Beach. The motivation for doing so is to increase the reliability and quality of service of the system.

Regarding claim 18, Beach further teaches comprising transmitting an acknowledgement frame to the mobile station from the access point over the WLAN channel in response to transmitting the polling frame (see paragraph 23 lines 7-8).

Regarding claim 19, Beach further teaches transmitting an acknowledgement frame from the mobile station to the access point over the WLAN channel in response to receiving the response frame (see paragraph 23 lines 11-13).

Regarding claim 22, Beach teaches all the subject matter of the claimed invention with the exception of the polling frame including data. However, Meier teaches transmitting a frame of voice data, the voice data provided to the WLAN subsystem by a voice processing subsystem of the mobile station (see paragraph 109 lines 1-4). Thus, it would have been obvious to one of ordinary skill in the system to use the system of Meier in the system of Beach. The motivation for doing so is to decrease the delay of the transmission of buffered data.

Regarding claim 23, Beach teaches if the access point has buffered data in the reserved buffer, transmitting a voice frame including the buffered voice data (see paragraph 23 lines 8-11). Beach teaches all the subject matter of the claimed invention with the exception of transmitting a null frame.

However, Meier teaches if the access point has not buffered voice data in the reserved buffer, transmitting a null frame (see paragraph 107 lines 1-10). Thus, it would

have been obvious to one of ordinary skill in the art to use the system of Meier in the

system of Beach. The motivation for doing so is to increase the reliability of the system.

5.   Claims **7, 8, 15, and 16** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Beach et al. (US 2004/0072588) in view of Lewis (US 6,393,261) and

Meier (US 2004/0184475) as applied to claims 1 and 9 above, and further in view of Liu

et al. (US 2004/0190467).

Regarding claims 7 and 15, Beach teaches all the subject matter of the claimed

invention with the exception of contending for the WLAN channel. However, Liu

teaches acquiring the WLAN channel is performed by contending for the WLAN channel

(see paragraph 54 lines 1-9). Thus, it would have been obvious to one of ordinary skill

in the art to use the system of Liu in the system of Beach. The motivation for doing so

is to increase the reliability of the system.

Regarding claims 8 and 16, Beach teaches all the subject matter of the claimed

invention with the exception of carrier sensing. However, Liu teaches contending for the

WLAN channel is performed by carrier sensing (see paragraph 54 lines 1-9). Thus, it

would have been obvious to one of ordinary skill in the art to use the system of Liu in

the system of Beach. The motivation for doing so is to increase the reliability of the

system.

Allowable Subject Matter

6.   Claims **6 and 21** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8.   Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as

well. It is respectfully requested from the applicant in preparing responses, to fully

consider the references in entirety as potentially teaching all or part of the claimed

invention, as well as the context of the passage as taught by the prior art or disclosed

by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to

indicate the portion(s) of the specification which dictate(s) the structure relied on for

proper interpretation and also to verify and ascertain the metes and bounds of the

claimed invention.

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Betty Lee whose telephone number is (571) 270-1412.

The examiner can normally be reached on Monday-Thursday 9-5 EST and alternate

Fridays.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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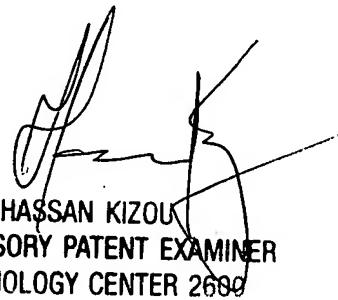
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